

WE CLAIM:

1. A jack for use with a faceplate having a front side positioned opposite from a back side, the faceplate defining an array of jack openings, the jack comprising:

A) a jack housing adapted to be mounted within a first one of the jack openings of the faceplate, the jack housing being sized and shaped to be inserted into the first jack opening from the front side of the faceplate, the jack housing including:

a) a first retaining structure positioned opposite from a second retaining structure, the first and second retaining structures being positioned to engage the front side of the faceplate when the jack housing is mounted in the first jack opening;

b) a resilient cantilever member having a base end positioned opposite from a free end, the base end being integrally connected with the jack housing, the cantilever member including a retaining tab positioned near the free end of the cantilever member, the retaining tab being positioned to engage the back side of the faceplate when the jack housing is mounted in the first jack opening;

c) a front portion positioned opposite from a back portion, the front portion defining an inner chamber and also defining front and rear openings for accessing the inner chamber, the front opening comprising a port sized for receiving a plug, and the back portion of the jack housing defining an open channel that extends in a rearward direction from the front portion; and

d) a first comb secured to the jack housing within the inner chamber;

B) an insert assembly adapted to be secured at least partially within the jack housing, the insert assembly:

a) a connector mount having a first side positioned opposite from a second side, the connector mount including:

i) two resilient locking tabs for securing the connector mount to the jack housing;

ii) a second comb positioned at the first side of the connector mount;

ii) an insulation displacement terminal housing positioned at the first side of the connector mount;

b) a plurality of contact springs separated by the second comb, the contact springs including base end portions and free end portions;

c) a plurality of insulation displacement terminals housed by the insulation displacement terminal housing; and

d) a circuit board providing electrical connections between the insulation displacement terminals and the contact springs, the circuit board being mounted at the second side of the connector mount;

wherein the insert assembly is secured to the jack housing by orienting the insert assembly such that the circuit board is received within the open channel, and then sliding the insert assembly in a forward direction such that: one end of the insert assembly moves into the inner chamber of the jack housing through the rear opening of the jack housing; the locking tabs interlock with the jack housing; and the free end portions of the contact springs are received in the first comb.

2. The jack of claim 1, wherein when the connector mount is secured to the jack housing, the circuit board fits within the open channel of the jack housing, the contact springs are positioned within the inner chamber of the jack housing, and the insulation displacement terminals are positioned outside the inner chamber.

3. The jack of claim 1, wherein the locking tabs snap within holes defined by the jack housing to secure the connector mount to the jack housing.

4. The jack of claim 1, further comprising a third comb mounted at the first side of the connector mount in general alignment with the free end portions of the contact springs, wherein when the connector mount is secured to the jack housing, the second and third combs align with one another and cooperate to form closed ended slots in which the free end portions of the contact springs are received.

5. The jack of claim 1, wherein one of the jack housing and the connector mount includes a pair of guide rails, and the other of the jack housing and the connector mount defines a pair of slots sized and position for receiving the guide rails as the first region of the connector mount is moved into the inner chamber of the jack housing.

6. The jack of claim 5, wherein one of the guide rails and the slots are tapered.
7. The jack of claim 5, wherein the guide rails and the slots are configured to position the insert assembly within the jack housing with the circuit board offset from a bed of the open channel such that alignment of the insert assembly within the jack housing is not dependent on a thickness of the circuit board.
8. The jack of claim 5, wherein the guide rails and the slots are configured to position the insert assembly at a first location relative to the first comb, and wherein a degree of deflection of the contact springs within the jack housing is not dependent on a thickness of the circuit board.
9. The jack of claim 1, wherein the jack housing has a total width w_t and the cantilever member has a width w_c defined at the base end of the cantilever member, the total width w_t being at least two times as large as the width w_c .
10. The jack of claim 9, wherein the cantilever member includes a main body and wings that project transversely outward from the main body.
11. An insert for a jack, the insert comprising:
- a) a connector mount having a main body including a first side positioned opposite from a second side, the connector mount including:
 - i) a snap-fit connection structure positioned at the main body for securing the connector mount to the jack;
 - ii) a divider positioned at the first side of the main body;
 - iii) an insulation displacement terminal housing positioned at the first side of the main body;
 - b) a plurality of contact springs separated by the divider;
 - c) a plurality of insulation displacement terminals housed by the insulation displacement terminal housing; and

d) a circuit board providing electrical connections between the insulation displacement terminals and the contact springs, the circuit board being mounted at the second side of the main body.

12. The insert of claim 11, wherein the contact springs include base end portions and free end portions, and wherein the divider includes one comb that receives the base end portions, and a second comb that aligns with the free end portions.

13. The insert of claim 11, wherein the snap-fit connection structure includes flexible lever members having locking tabs, and the divider is positioned generally between the flexible lever members.

14. A jack for use with a faceplate having a front side positioned opposite from a back side, the faceplate defining an array of jack openings, the jack comprising:

a jack housing adapted to be mounted within a first one of the jack openings of the faceplate, the jack housing having a total width w_t and the jack housing being sized and shaped to be inserted into the first jack opening from the front side of the faceplate;

the jack housing including a first retaining structure positioned opposite from a second retaining structure, the first and second retaining structures being positioned to engage the front side of the faceplate when the jack housing is mounted in the first jack opening;

at least one of the first and second retaining structures including spaced-apart retaining shoulders separated by a gap, each of the retaining shoulders having a width w_s and the gap having a width w_g that is smaller than each of the widths w_s ;

a resilient cantilever member having a base end positioned opposite from a free end, the base end being integrally connected with the jack housing and the free end being positioned generally within the gap between the spaced-apart retaining shoulders, the cantilever member including a retaining tab positioned near the free end of the cantilever member, the retaining tab being positioned to engage the back side of the faceplate when the jack housing is mounted in the first jack opening such that the faceplate is captured between the retaining shoulders and the retaining tab; and

the cantilever member having a width w_c defined at the base end of the cantilever member, the total width w_t of the jack housing being at least two times as large as the width w_c .

15. The jack of claim 14, wherein the cantilever member includes a main body and wings that project transversely outward from opposite sides of the main body.

16. The jack of claim 15, wherein the jack housing includes deflection limiting surfaces positioned to engage the wings when the cantilever member has been deflected a first amount, wherein contact between the wings and the deflection limiting surfaces prevents the cantilever member from being over deflected.

17. The jack of claim 16, wherein the jack housing includes a front end positioned opposite from a back end, the front end of the jack housing defining a port for receiving a plug, and the cantilever member at least partially defining a portion of the port.

18. A jack for use with a faceplate having a front side positioned opposite from a back side, the faceplate defining an array of jack openings, the jack comprising:

a jack housing adapted to be mounted within a first one of the jack openings of the faceplate, the jack housing being sized and shaped to be inserted into the first jack opening from the front side of the faceplate;

the jack housing including a first retaining structure positioned opposite from a second retaining structure, the first and second retaining structures being positioned to engage the front side of the faceplate when the jack housing is mounted in the first jack opening;

at least one of the first and second retaining structures including spaced-apart retaining shoulders separated by a gap;

a resilient cantilever member having a base end positioned opposite from a free end, the base end being integrally connected with the jack housing and the free end being positioned generally within the gap between the spaced-apart retaining shoulders, the cantilever member including a retaining tab positioned near the free end of the cantilever member, the retaining tab being positioned to engage the back side of

the faceplate when the jack housing is mounted in the first jack opening such that the faceplate is captured between the retaining shoulders and the retaining tab;

the cantilever member including a main body and wings that project transversely outward from opposite sides of the main body; and

the jack housing including deflection limiting surfaces positioned to engage the wings when the cantilever member has been deflected a first amount, wherein contact between the wings and the deflection limiting surfaces prevents the cantilever member from being over deflected.

19. The jack of claim 18, wherein the jack housing includes a front end positioned opposite from a back end, the front end of the jack housing defining a port for receiving a plug, and the cantilever member at least partially defining a portion of the port.

20. A jack comprising:

a jack housing defining a port sized for receiving a plug;

a plurality of contact springs positioned within the housing, the contact springs including base end portions and free end portions; and

two separate and opposing comb structures for isolating the free end portions of the springs from one another, the opposing comb structures being relatively aligned so as to generally form closed ended slots in which the free end portions of the contact springs are received.

21. A connector assembly for use with a faceplate having a front side positioned opposite from a back side, the faceplate defining an array of openings, the connector assembly comprising:

a support structure adapted to be mounted within a first one of the openings of the faceplate, the support structure having a total width w_1 and the support structure being sized and shaped to be inserted into the first opening from the front side of the faceplate;

the support structure including a first retaining structure positioned opposite from a second retaining structure, the first and second retaining structures being positioned to engage the front side of the faceplate when the support structure is mounted in the first opening;

at least one of the first and second retaining structures including spaced-apart retaining shoulders separated by a gap, each of the retaining shoulders having a width w_s and the gap having a width w_g that is smaller than each of the widths w_s ;

a resilient cantilever member having a base end positioned opposite from a free end, the base end being integrally connected with the support structure and the free end being positioned generally within the gap between the spaced-apart retaining shoulders, the cantilever member including a retaining tab positioned near the free end of the cantilever member, the retaining tab being positioned to engage the back side of the faceplate when the support structure is mounted in the first opening such that the faceplate is captured between the retaining shoulders and the retaining tab;

the cantilever member having a width w_c defined at the base end of the cantilever member, the total width w_t of the support structure being at least two times as large as the width w_c ; and

a telecommunications connector secured to the support structure.